Referring now to Figures 1-4, the procedure to attach and detach the clamp coagulator 120 from the acoustic assembly 80 will be described below. When the physician is ready to use the clamp coagulator 120, the physician simply attaches the clamp coagulator 120 onto the acoustic assembly 80. To attach the clamp coagulator 120 to acoustic assembly 80, the distal end of stud 50 is threadedly connected to the proximal end of the transmission component or ultrasonic waveguide 179. The clamp coagulator 120 is then manually rotated in a conventional screw-threading direction to interlock the threaded connection between the stud 50 and the ultrasonic waveguide 179.

Once the ultrasonic waveguide 179 is threaded onto the stud 50, a tool, such as, for example, a torque wrench, may be placed over the elongated member 150 of the clamp coagulator 120 to tighten the ultrasonic waveguide 179 to the stud 50. The tool may be configured to engage the wrench flats 169 of the hub 162 of the outer tube 160 in order to tighten the ultrasonic waveguide 179 onto the stud 50. As a result, the rotation of the hub 162 will rotate the elongated member 150 until the ultrasonic waveguide 179 is tightened against the stud 50 at a desired and predetermined torque. It is contemplated that the torque wrench may alternately be manufactured as part of the clamp coagulator 120, or as part of the hand piece housing 20, such as the torque wrench described in U.S. Patent No. 5,776,155 hereby incorporated herein by reference.

Once the clamp coagulator 120 is attached to the acoustic assembly 80, the surgeon can rotate the rotational knob 190 to adjust the elongated member 150 at a desired angular position. As the rotational knob 190 is rotated, the teeth 269 of the tubular collar 260 slip over the pawls 286 of the yoke 280 into the adjacent notch or valley. As a result, the surgeon can position the end-effector 180 at a desired orientation. Rotational knob 190 may incorporate an indicator to indicate the rotational relationship between instrument housing 130 and clamp arm 202. As illustrated in Figures 17 and 18, one of the ridges 197 of rotational knob 190 may be used to indicate the rotational position of clamp arm 202 with respect to instrument housing 130 by utilizing, for example, an enlarged ridge 200. It is also

contemplated that alternate indications such as the use of coloring, symbols, textures, or the like may also be used on rotational knob 190 to indicate position similarly to the use of enlarged ridge 200.

To detach the clamp coagulator 120 from the stud 50 of the acoustic assembly 80, the tool may be slipped over the elongated member 150 of the surgical tool 120 and rotated in the opposite direction, i.e., in a direction to unthread the ultrasonic waveguide 179 from the stud 50. When the tool is rotated, the hub 162 of the outer tube 160 allows torque to be applied to the ultrasonic waveguide 179 through the pin 163 to allow a relatively high disengaging torque to be applied to rotate the ultrasonic waveguide 179 in the unthreading direction. As a result, the ultrasonic waveguide 179 loosens from the stud 50. Once the ultrasonic waveguide 179 is removed from the stud 50, the entire clamp coagulator 120 may be thrown away.

While preferred embodiments of the present invention have been shown and described herein, it will be obvious to those skilled in the art that such embodiments are provided by way of example only. Numerous variations, changes, and substitutions will now occur to those skilled in the art without departing from the invention. Accordingly, it is intended that the invention be limited only by the spirit and scope of the appended claims.